Operating Instructions

STEREO RECEIVER

SX-312R

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE

[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

[For Canadian models]

CAUTION:

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED)PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION:

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

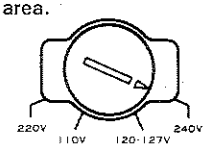
TWO VOLTAGE SELECTOR SWITCHES

Only multi-voltage models are provided with these switches. U.S. Canadian models are not provided with these switches.

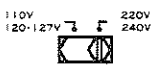
Mains voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with 110 V setting in Saudi Arabia.

The line voltage selector switches are on the rear panel. Before your model is shipped from the factory, these switches are set to the power requirements of the destination. Check that they are set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switches as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selectors and adjust so that the tip of the allow points to the voltage value of your area.



Set the voltage selector switch to the voltage in your area.



Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

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PIONEER®

The Art of Entertainment

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The safety and operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged.
- Objects have fallen, or liquid has been spilled into the appliance.
- The appliance has been exposed to rain.
- The appliance does not appear to operate normally or exhibits a marked change in performance.
- The appliance has been dropped or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

CART — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

NEC — NATIONAL ELECTRIC CODE

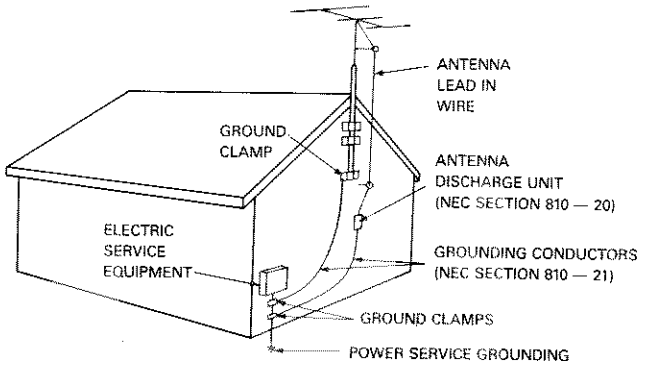


FIG. A

CHANNEL STEP SWITCH (Multi-voltage model only)

The unit has been factory preset to the channel allocation and deemphasis value for the area in which it is to be sold. If these values are set incorrectly, the frequency display may stop at the wrong frequency, or sound may be distorted, resulting in an inability to reproduce reception signals at their proper sound quality. For this reason, be sure to confirm that the values are set correctly before first using the unit.

[100 kHz/10 kHz] position:

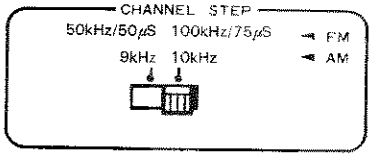
Set to this position for areas with an FM reception step of 100 kHz, AM 10 kHz.

[50 kHz/9 kHz] position:

Set to this position, for areas with an FM reception step of 50 kHz, AM 9 kHz.

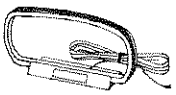
NOTE:

When unsure about the channel allocation and de-emphasis values for your area, consult your dealer for correct information.



CHECKING ACCESSORY ITEMS

FM Antenna



AM Loop Antenna

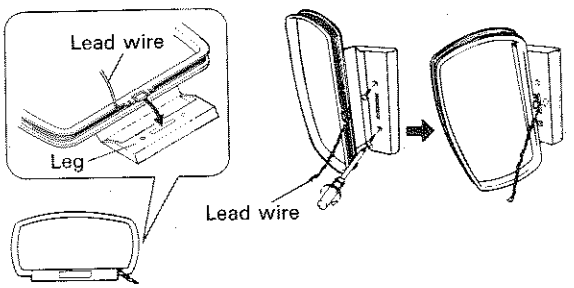
Remote control unit

Dry cell battery (SIZE "AAA" (R03/UM-4))

CONNECTIONS

Setting up the AM Antenna

- Insert the claw on the bottom of the antenna into the groove in the leg.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.
- To permanently fix the antenna, screw the leg to a wall or something similar before assembling (fixing the antenna in the direction that gives the best reception).

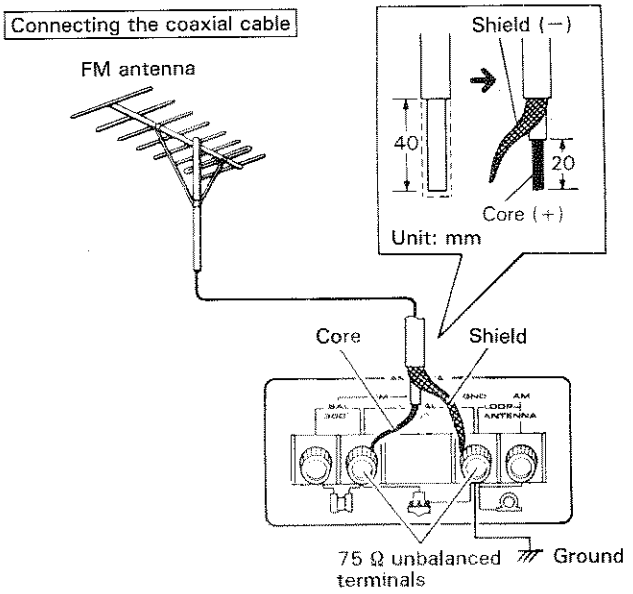


EXTERNAL FM ANTENNA

The main advantage of FM over AM is the quality of the broadcast signal. In order to benefit fully from the high signal quality of FM broadcasts, it is recommended that a special-purpose FM antenna be installed. In weak signal areas, a multi-element (3 element, 5 element, 7 element, etc.) antenna should be used.

FM OUTDOOR ANTENNA CONNECTIONS

There are two ways of connecting the FM antenna to the antenna input terminals: with a 300 Ω twin-lead feeder or with a 75 Ω coaxial cable.
To get the most from the receiver performance, a 75 Ω coaxial cable is recommended since it is more immune than the twin-lead feeder to noise and interference from external sources. If an FM antenna has already been erected outdoors, connect it, referring to the figure.



GROUNDING

Grounding is recommended if reception of FM programs is impaired by noise. To ground, connect a thick polyvinyl insulated wire to the GND terminal and attach the other end to a metal water pipe or grounding bar or wind it around a copper plate and bury it.
NOTE:
Never connect a wire to a gas pipe for grounding since sparks may ignite the gas.

EXTERNAL AM ANTENNA

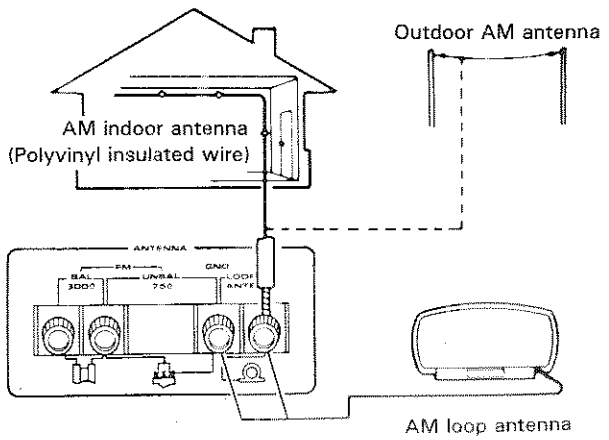
If it is not possible to obtain adequate AM reception even by changing the orientation of the AM loop antenna, a separate indoor antenna, or an outdoor antenna should be installed.

INDOOR AM ANTENNA

Use a vinyl insulated wire (5 – 6m:17 – 20 feet) and connect one end to the AM antenna terminal and affix the other end to the wall or ceiling, as high as possible.

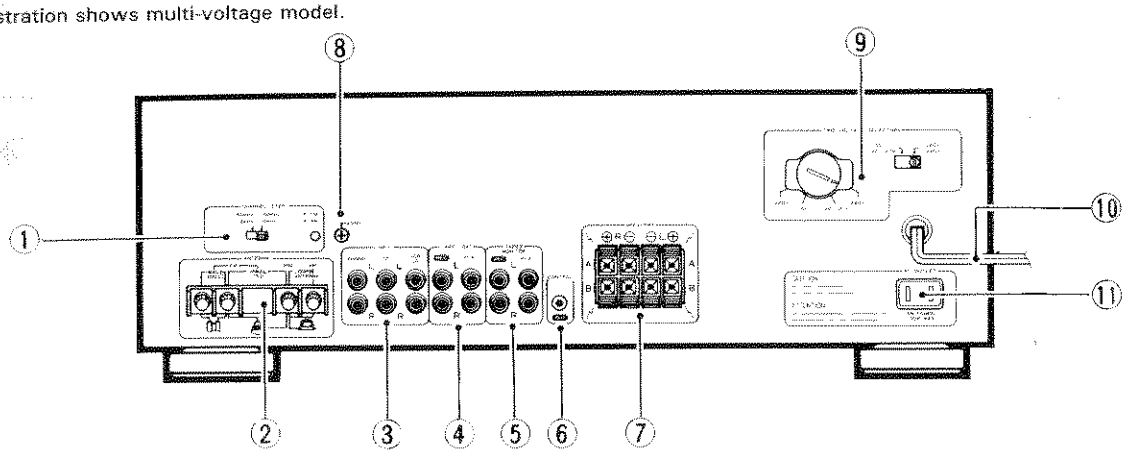
OUTDOOR AM ANTENNA

If reception quality is not improved sufficiently even when an indoor antenna is used, a vinyl insulated wire should be installed outside and fixed in place.
NOTE:
Do not detach the AM loop antenna when using an indoor or an outdoor AM antenna.



REAR PANEL FACILITIES

* The illustration shows multi-voltage model.



① CHANNEL STEP switch (See page 2) (Multi-voltage models only)

② FM/AM ANTENNA terminals

Use these antenna terminals for receiving FM and AM broadcasts.

③ INPUT jacks

PHONO ····· Connect to the output cables from a turntable.
CD ····· Connect to the output jacks of a compact disc player.
VCR/LD ··· Connect to the output jacks of a video cassette recorder or LD player, etc.

④ TAPE 1/DAT jacks

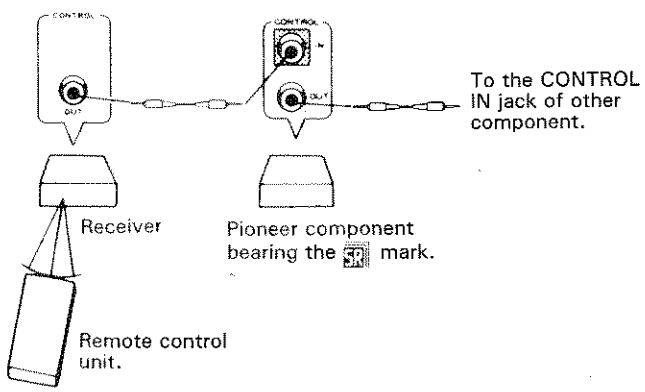
Connect these jacks to the cassette deck or digital audio tape deck.

⑤ TAPE 2 MONITOR jacks

Connect these jacks to the cassette deck.

⑥ CONTROL OUT jacks

Connect this jack to other Pioneer components bearing the SR mark when using the remote control of this unit to control the other components.



⑦ SPEAKERS terminals

A: Connect to a first set speakers.
B: Connect to a second set of speakers.
NOTE:
No sound will be heard through the speakers when both A and B buttons are depressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

⑧ GND terminal

Connect to the ground lead of a turntable.
Use a screwdriver to connect with the ground terminal.

⑨ VOLTAGE SELECTORS (See page 1) (Multi-voltage models only)

⑩ Power cord

Connect to AC wall socket.

⑪ AC OUTLET

AC OUTLET
[U.S. and Canadian models]
SWITCHED 100 W MAX (0.8 A MAX)

Power supplied through this outlet is turned on and off by the receiver's POWER switch. Electrical power consumption of the connected equipment should not exceed 100 W (0.8 A MAX).
The equipment should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g. when on vacation.

[Multi-voltage model]
SWITCHED 100 W MAX

Power supplied through this outlet is turned on and off by the receiver's POWER switch. Electrical power consumption of the connected equipment should not exceed 100 W. The equipment should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g. when on vacation.

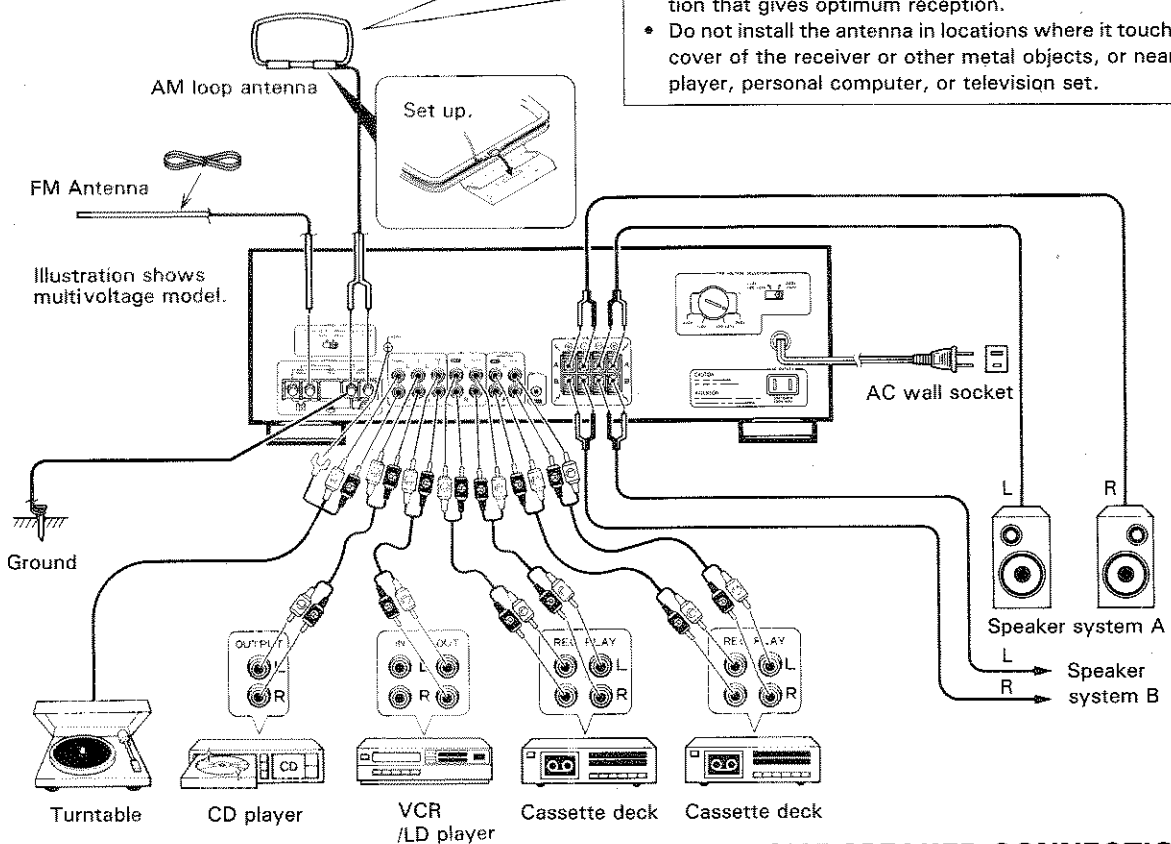
CAUTION:
DO NOT CONNECT MONITOR OR TV SET.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET, in order to avoid overheating or fire risk.
This can cause the receiver to malfunction.

When not using the unit for a long period, disconnected the power cord.

AM LOOP ANTENNA

- Set the antenna on a level surface, and point in the direction that gives optimum reception.
- Do not install the antenna in locations where it touches the cover of the receiver or other metal objects, or near a CD player, personal computer, or television set.



Connecting the input/output cords

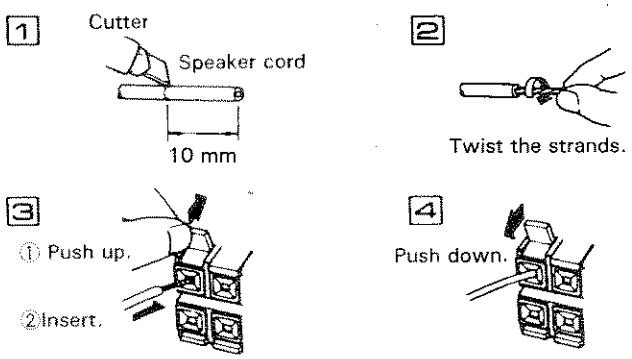
When another stereo component (purchased separately) is connected note the following instructions.

- Connect the plugs properly.Faulty connections can cause noise and also breakdowns and failures.
- The white terminal is for the left channel and the red terminal is for the right channel.

NOTE ABOUT SPEAKER CONNECTIONS

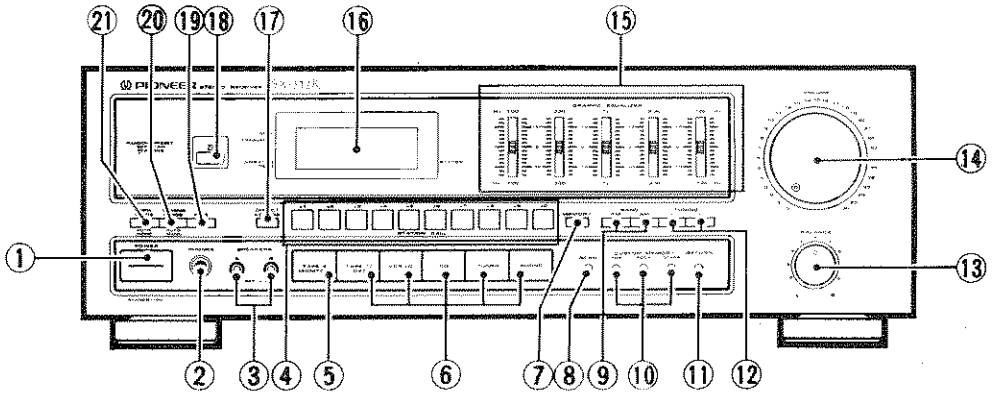
- Speaker systems used should have an impedance of between 8 Ω and 16 Ω.
- Be sure that connections are secure. Check to make sure that wires do not protrude from their terminals.
- Do not allow the speaker cords to short-circuit. Damage may result to your unit.
- Do not attempt to connect two sets of speakers to a single side (A or B). When using two sets of speakers, connect one set to side A and one set to side B.

Connecting the speaker cords



FRONT PANEL FACILITIES

- The illustration shows multi-voltage model.



① POWER (STANDBY/ON) switch

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain opetation readiness.

- The accessory remote control unit can also be used to operate STANDBY/ON.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for approx. 5 seconds.

② PHONES jack

Connect the plug on your headphones to this jack. To listen to a program through the headphones, set both SPEAKERS A and B switches to the OFF position.

③ SPEAKERS A, B (▬ OFF, ▬ ON) buttons

These are used to select the speaker through which you wish to listen.

A: When the speakers connected to A terminals are in use.

B: When the speakers connected to B terminals are in use.

- Turn both A and B speakers to OFF position when only the headphones are in use.

NOTE:

No sound will be heard through the speakers when both A and B buttons are depressed if only one set speakers has been connected to either A or B SPEAKERS terminals.

④ STATION CALL buttons

These buttons are used to preset and recall desired broadcasting stations.

⑤ TAPE 2 MONITOR button

Press when listening to tape playback with the cassette deck 2.

⑥ Function buttons

Use to select playback source.

[TAPE 1/DAT] – Press when listening to tape playback with the cassette deck 1 or digital audio tape deck.

[VCR/LD] – Press when listening to programs from a component connected to the VCR/LD terminals.

[CD] – Press when listening to compact disc playback with a CD player.

[TUNER] – Press when listening to AM or FM broadcasts.

[PHONO] – Press when listening to record playback on a turntable.

⑦ MEMORY button

When the unit is in the frequency display mode, pressing this button will result in the memorization of the current broadcast band, reception frequency, and FM AUTO/MONO mode.

This button is also used to input custom memory names (see page 12).

⑧ SCAN button

This button is used for both station memory scan and custom memory scan.

⑨ BAND Selector buttons

These buttons are used to select either AM or FM reception.

⑩ CUSTOM MEMORY buttons

Stations can be assigned to STATION CALL buttons according to the genre of material broadcast (POP, ROCK, OTHER). You can recall a particular genre, and scan all the stations of that genre with Memory Scan until you reach the desired one. (Refer to page 12 for details concerning memory operation)

⑪ RETURN button

This is helpful during troubleshooting or when no sound is output. Pressing this button returns the receiver to the following settings, the sound level being controlled by VOLUME control.

- TAPE 2 MONITOR OFF
- FUNCTION TUNER
- BAND FM*

* The last FM broadcast you were listening to will be received. When reception is not possible, search begins for frequency that can be received.

NOTE:
If no sound is output after the RETURN button is pressed, make sure that SPEAKERS A, B buttons are turned on.

⑫ TUNING buttons (−, +)

+: The FM or AM band is scanned in the direction of increasing frequency.
−: The opposite operation to that of the UP button takes place.

⑬ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the rights side is louder, turn toward the L position and if the left side is louder, turn toward the R position.

⑭ VOLUME control

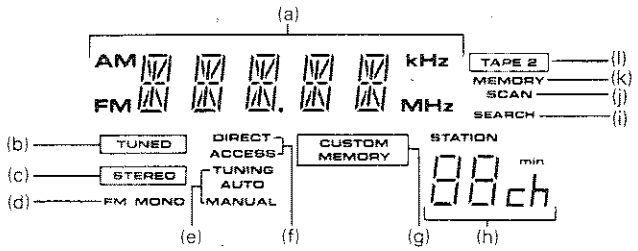
Use to adjust volume level.

⑮ GRAPHIC EQUALIZER controls

The equalizer is divided into five frequency ranges (100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz) to tailor music to the individual taste of the listener.

⑯ OPERATION DISPLAY panel

(a) Indicates the function or frequency by the function switches.
(b) TUNED indicator
(c) FM STEREO indicator
(d) FM MONO indicator
(e) TUNING AUTO/MANUAL indicator
(f) DIRECT ACCESS tuning indicator
(g) CUSTOM MEMORY indicator
(h) Indicates channel (STATION CALL number) or sleep time.
(i) SEARCH indicator
(j) SCAN indicator
(k) MEMORY indicator
(l) TAPE 2 monitor indicator.



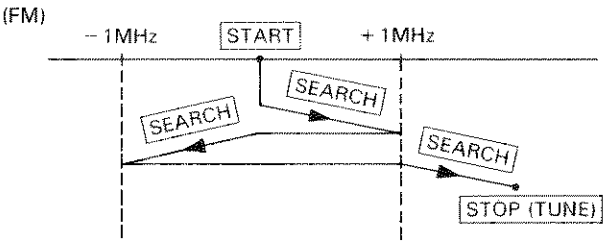
⑰ DIRECT ACCESS tuning button

When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.
If the input station falls outside of the receiver's tuning range, the display section will display a message:"UPPER" if the frequency is too high and "LOWER" if it is too low (see page 10).

⑱ Remote sensor window

⑲ HITS button

- Works during FM reception.
- If the HITS button is pressed during input of numbers for DIRECT ACCESS tuning, the receiver sets the remaining digits which have not yet been input to "0", searches for the corresponding frequencies, and stops on the first station it finds.
- If the HITS button is pressed at the currently displayed station frequency, the receiver searches up and down the frequency band for the next station (the SEARCH indicator in the display section lights at this time) and stops at the first one it finds.



NOTE:

- *The system searches for stations within successive 1 MHz ranges for FM. During DIRECT ACCESS tuning, it searches up and down for a station until it reaches the edges of the band. If no receivable station is found within the band range, the receiver returns to the state it was in before the HITS button was pressed.*
- *If the upper (or lower) frequency limit of the receiver is encountered during HITS operation, the receiver stops searching in that direction but continues to search in the other.*

⑳ TUNING MODE selector button

Works during FM reception.
Use this button to select either the AUTO mode or the MANUAL mode (see page 9).

㉑ MPX MODE selector button

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator is lighted.

Auto stereo mode:

Normally leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo sound.

Monaural mode:

When receiving distant stations or stations with weak broadcast signals, the input signal may be weak, thus resulting in increased noise during FM stereo broadcasts. In this event, setting the receiver to the monaural mode will reduce the noise. In this case, however, FM stereo broadcasts will be reproduced in monaural sound.

NOTE:
This button has no effect on reception of AM broadcasts.

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.
THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE	
90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. the power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

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master

Operating Instructions

STEREO RECEIVER

SX-312R

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE

[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

[For Canadian models]

CAUTION:

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED)PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION:

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

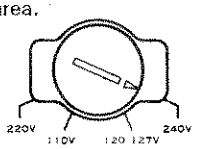
TWO VOLTAGE SELECTOR SWITCHES

Only multi-voltage models are provided with these switches. U.S. Canadian models are not provided with these switches.

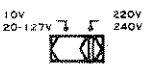
Mains voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with 110 V setting in Saudi Arabia.

The line voltage selector switches are on the rear panel. Before your model is shipped from the factory, these switches are set to the power requirements of the destination. Check that they are set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switches as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selectors and adjust so that the tip of the allow points to the voltage value of your area.



Set the voltage selector switch to the voltage in your area.



Information to User
Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

CONTENTS

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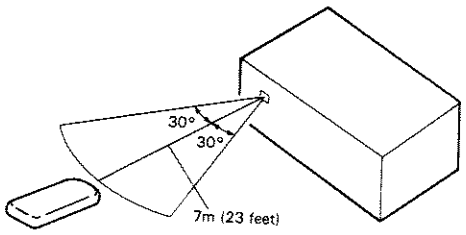
PIONEER
The Art of Entertainment

REMOTE CONTROL UNIT FACILITIES

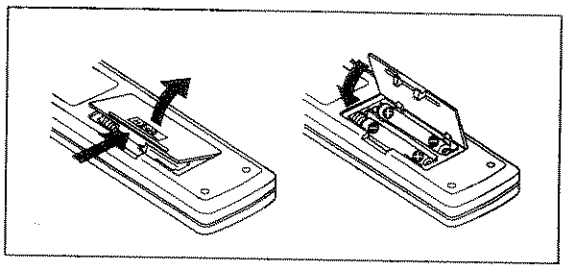
REMOTE CONTROL RANGE

When operating the remote control unit, point the front of the unit at the front panel of the receiver. The remote control unit may be used within a range of about 7 meters (23 feet) from the remote sensor, within angles of up to about 30 degrees.
Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote sensor window in the receiver. Performance of the remote control unit is adversely affected in the presence of strong fluorescent light. Keep such lights away, specially from the sensor window.

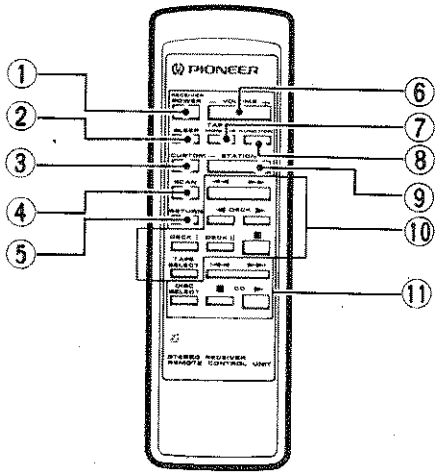


LOADING BATTERIES

1. Open the rear cover.
2. Install size "AAA" (IEC R03/UM-4) batteries correctly matching polarity.
3. Close the cover.



Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:
A.: Always insert batteries into the battery compartment correctly matching the positive (+) and negative (−) polarities, as indicated inside the compartment.
B.: Never mix new and used batteries.
C.: Batteries of the same size may have different voltages, depending on their type. Do not mix different type of batteries.



This remote control unit can be used to operate some functions of Pioneer marked CD players and cassette deck.

① RECEIVER POWER button
② SLEEP button

Activates the SLEEP timer. The length changes in the following manner each time the button is pressed:

→ 60 → 30 → 0 (OFF) →

Unit: minutes

During SLEEP timer operation, SLEEP is displayed on the receiver OPERATION DISPLAY.

③ CUSTOM button

For selection of one of three custom memory settings.

④ SCAN button

Scans memorized stations.

⑤ RETURN button
⑥ VOLUME +/− button
⑦ TAPE 2 MONITOR button
⑧ FUNCTION button
⑨ STATION +/− button

- Before operation, memorize broadcast stations in the STATION CALL buttons. (see page 11)
  +: Station change in order in the upward direction.
  −: Station change in order in the downward direction.

⑩ DECK operation button

TAPE SELECT	: Cassette selection. (When MULTI-CASSETTE CHANGER is used.)
DECK I	: DECK I selection.
DECK II	: DECK II selection.
■	: Stop
◄ DECK ►	: Reverse and Forward playback (Set the function button to TAPE position.)
◄◄	: Rewind in forward mode, fast forward in reverse mode.
►►	: Fast Forward in forward mode, rewind in reverse mode.

NOTE:

- *To operate the cassette deck, first press the Deck I or Deck II button to select the desired deck. Then press the correct control buttons.*
- *To operate the single deck, first the Deck II button. Then press the correct control buttons.*
- *Refer to your cassette deck's operating instructions for details.*

⑪ CD operation button

DISC SELECT	: DISC selection.
■	: Stop
►	: Play.
⏮, ⏭	: Track search.

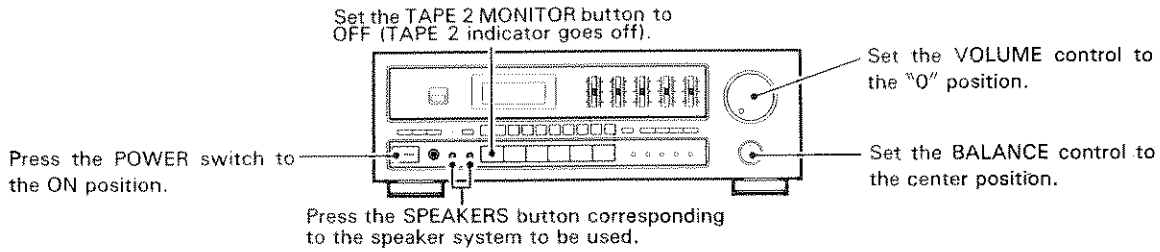
NOTE:

- *Note that the DISC SELECT button on the accessory remote control unit may not function, depending on the CD player used.*

Refer to each operating instructions about the Cassette deck-, or CD-control.

SETTING THE UNIT PRIOR TO OPERATION

- Before operating the unit, be sure to set it as shown below.


Set the TAPE 2 MONITOR button to OFF (TAPE 2 indicator goes off).
Set the VOLUME control to the "0" position.
Press the POWER switch to the ON position.
Set the BALANCE control to the center position.
Press the SPEAKERS button corresponding to the speaker system to be used.

GRAPHIC EQUALIZER CONTROLS

The advantage of the GRAPHIC EQUALIZER over conventional tone controls is that with the five controls of the GRAPHIC EQUALIZER it is possible to control five different narrow, distinct sections of the audio band. With conventional tone controls a setting for a bass or treble boost or cut will also affect the lower or upper mid frequencies. The frequency bands controlled by the five side controls have been chosen to yield the maximum possible control action within the audio spectrum.

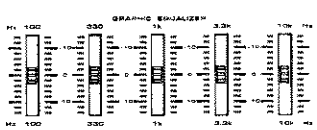
100 Hz: The 100 Hz control is very useful in enhancing low bass notes as in organ music.

330 Hz: The 330 Hz control will allow you to vary the upper bass frequencies.

1 kHz: The 1 kHz control is the presence control and can be used very effectively to emphasize, or de-emphasize vocalists.

3.3 kHz: The 3.3 kHz control will add brilliance and clarity to brass instruments and violins.

10 kHz: The 10 kHz control can be used to make up for missing high frequencies absorbed by the environment and to add a natural crispness to music.



Emphasize frequency range.

De-emphasize frequency range.

LISTENING TO THE BROADCAST

- Check that all terminals are properly connected before switching on the unit.

AUTO TUNING (FM reception)

The electronic tuning circuit inside the unit will search for the station.

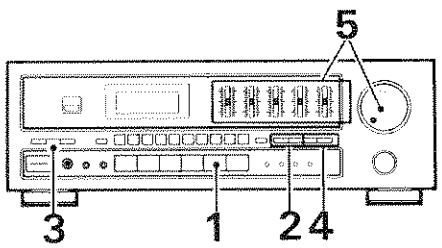
1. **Press the TUNER button of the function buttons.**
2. **Set the BAND selector buttons for FM reception.**
3. **Press the TUNING MODE button to establish the AUTO tuning mode (the AUTO indicator lights).**
4. **Press the TUNING button "+" or "−" for a higher or lower frequency as desired.**

The frequency will change rapidly during scanning. The AUTO TUNING will stop automatically when the station is located and the TUNED indicator will light up.

NOTE:

When the AUTO TUNING is in use, reception may not be possible over long distances or when signals are weak. At these times manual tuning is recommended.

5. **Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**



MANUAL TUNING (FM/AM reception)

1. **Press the TUNER button of the function buttons.**
2. **Select your desired broadcasting and using the BAND selector buttons.**
3. **Press the TUNING MODE button to establish the MANUAL tuning mode (the MANUAL indicator light) during FM reception.**
4. **Use the TUNING buttons to locate the frequency of the desired station.**

For step-by-step searching, press the TUNING button once and release it immediately. For continuous rapid scanning keep the TUNING button pressed. The TUNED indicator will light up when the station is tuned in best.

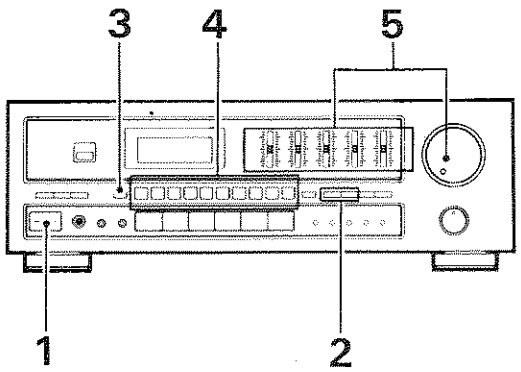
NOTE:

The TUNED indicator will not function for broadcasts received over long distances or when signals are weak.

5. **Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**

DIRECT ACCESS TUNING

LISTENING TO BROADCASTS USING DIRECT ACCESS TUNING



When you know the frequency of the desired station, the frequency can be input directly using the STATION CALL (number) buttons in the following way:

1. Press the POWER switch to the ON position.

NOTE
Be sure to turn the TAPE 2 MONITOR button OFF when listening to AM or FM broadcasts.

2. Select either FM or AM using the BAND selector button.

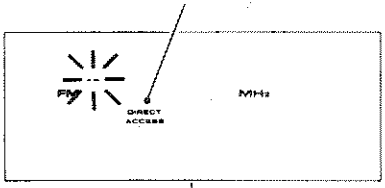
3. Press the DIRECT ACCESS tuning button.

- In the Direct Access tuning mode, the DIRECT ACCESS tuning indicator will light up.
- If you do not perform any operations within five seconds of pressing the DIRECT ACCESS button, direct access is canceled.

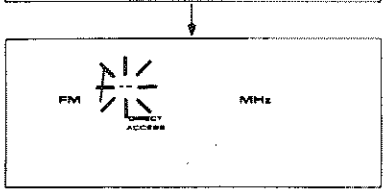
4. Input the desired station frequency using the STATION CALL buttons.

Example 1: To receive FM 106.00 MHz

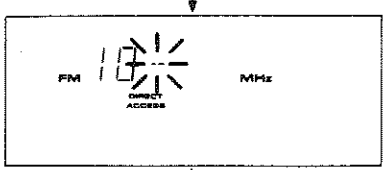
DIRECT ACCESS tuning indicator lights up.



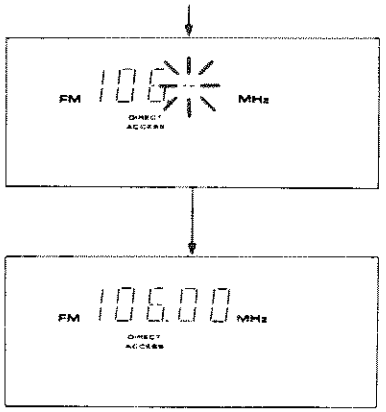
Press the DIRECT ACCESS tuning button.

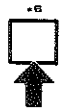


Press the button *1



Press the button *0



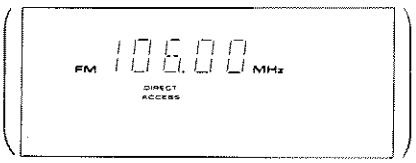


Press the button *6

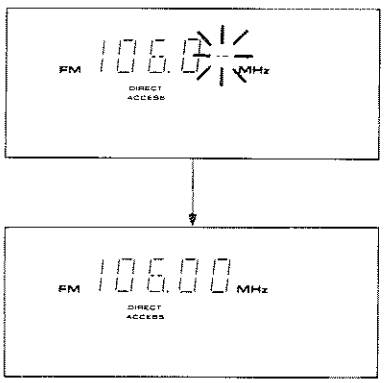
Press the button *0

FOR MULTI-VOLTAGE MODEL

- When the CHANNEL STEP switch is set to FM 100 kHz step, the tuning operation is completed and reception begins.



When the CHANNEL STEP switch is set to FM 50 kHz step:



Press the button *0

Press the button *0

Once the station frequency has been input, the receiver tunes in that frequency. If the input frequency falls below the lower or higher limit of the receiver's receivable frequency range (FM: 87.5 MHz – 108 MHz; AM: 530 kHz – 1,700 kHz (10 kHz step), 531 kHz – 1,602 kHz (9kHz step) "LOWER" or "UPPER" is displayed, indicating that the frequency which has been input cannot be tuned in.

5. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.

To cancel frequency input

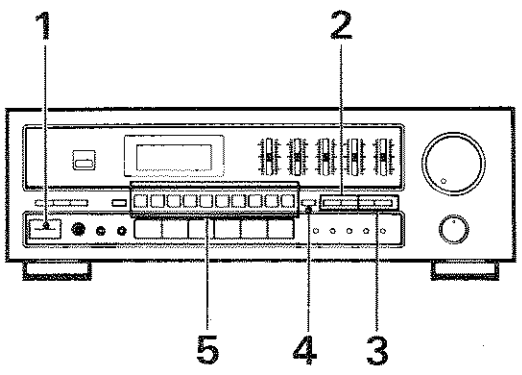
Direct access is canceled when the DIRECT ACCESS tuning button is pressed again.
Under the following conditions direct access is canceled and the unit returns to the condition in effect before direct access was selected:

① If there is no key input for approx. five seconds after the DIRECT ACCESS tuning button was pressed.
② If more than approx. eight seconds elapse between number input.

PRESET TUNING

FREQUENCY PRESETTING

Allows three stations per STATION CALL button (press once, twice, or three times to select).



1. Press the POWER switch to the ON position.

NOTE:
Be sure to turn the TAPE 2 MONITOR button OFF when listening to AM or FM broadcasts.

2. Set the BAND selector to either FM or AM.

3. Tune in the desired station.

- See the section "DIRECT ACCESS TUNING" for information on reception using the Direct Access Tuning mode.
- See the section "AUTO TUNING" for information on reception using the Auto Tuning mode.
- See the section "MANUAL TUNING" for information on reception using the Manual Tuning mode.
  In addition to station frequencies, the MPX MODE (AUTO/MONO) can also be preset.

4. Press the MEMORY button.

- The MEMORY indicator will flash.

5. press the STATION CALL button into which you wish to preset the station.

- Press the STATION CALL button while the MEMORY indicator is flashing (approx. 5 seconds).
- Use the STATION CALL buttons (*1 – *9, *0) to select a preset channel. One press selects the 1 – 10 range, two presses 11 – 20, and three presses 21 – 30.

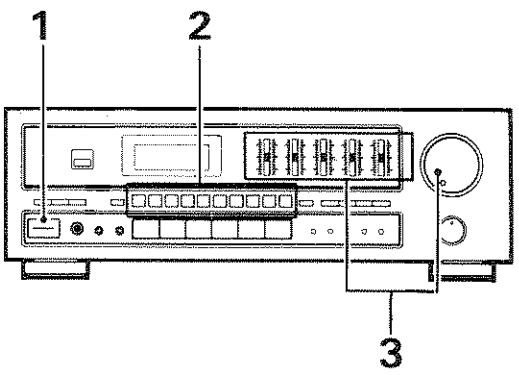
[Example] If you press button [*3]:
Once – STATION 3
Twice – STATION 13
Three times – STATION 23
Press a STATION CALL button within two seconds.
When the display stops flashing, the station is preset.

NOTE:
Do not press buttons while the display is still flashing.

6. Repeat steps 2 to 5 to preset additional stations.

A total of 30 AM and FM stations may be preset. When you store a new preset, it takes the place of the previously stored station (if any).

LISTENING TO BROADCASTS USING PRESET TUNING



1. Press the POWER switch to the ON position.

2. Press the STATION CALL button into which the desired station has been preset.

- When the Function button is set to a function other than TUNER, it will switch to the TUNER function automatically if one of the STATION CALL buttons is pressed.
  Tuning can be performed simply and accurately following the above procedure.

3. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.

NOTE:
The contents of the STATION CALL button will be preserved for several days, even if the receiver power cord is unplugged.
If a preset station has been erased, preset it again.

Last station memory

The last received AM and FM stations remain stored despite FUNCTION and/or POWER switching. To recall, use BAND selector buttons.

HOW TO USE THE CUSTOM MEMORY

Press stations can be classified into as many as three different genres according to the material played by the station. Each of these three genres can be given a name, and Memory Scan of all the stations of a particular genre can be carried out.
The initial STATION CALL numbers are classified and named as follows.

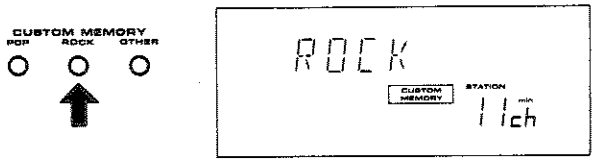
STATION CALL NO.	NAME
1 – 10	POP
11 – 20	ROCK
21 – 30	OTHER

It is recommended that you assign station call buttons to appropriate stations to be preset.

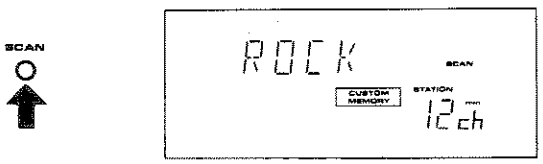
Memory Scan of stations with the same genre name

Memory Scan of all stations classified under the same genre name is possible.

1. Press the CUSTOM MEMORY button to display the NAME you want to Memory Scan.



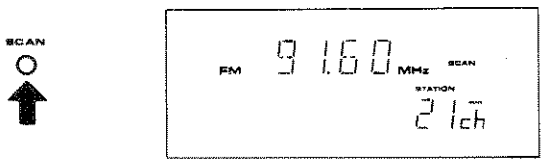
2. Press the SCAN button.



- Memory Scan stations classified under the name displayed will be carried out.
- Press the SCAN button again to stop Memory Scan.

Memory Scan of all the station call numbers

You can recall all of the station call numbers by pressing the SCAN button while the display shows the frequency indication.

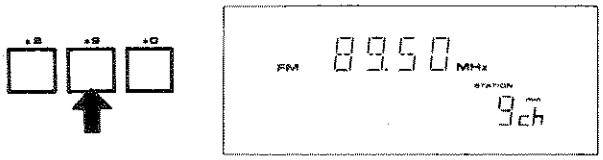


Press the SCAN button again to stop Memory Scan.

Reclassification of a station under a different genre name

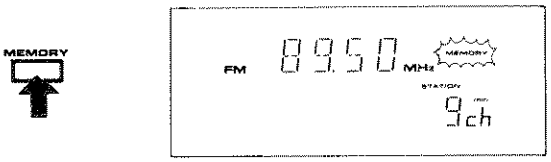
It is possible to change the genre classification of a station.
[Example] When you want to change the classification of the station assigned to STATION CALL number 9 from "POP" to "OTHER".

1. Press the STATION CALL 9 button.



- The station assigned to STATION CALL number 9 will be recalled.

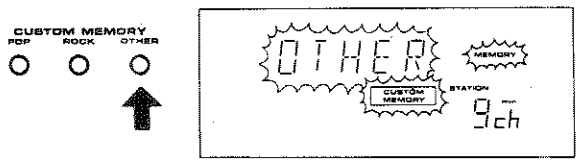
2. Press the MEMORY button.



- The MEMORY indicator will flash.

3. Press the OTHER button.

- The "OTHER" will flash.



- When the display stops flashing, the classification name of STATION CALL number 9 changes to "OTHER".

NOTE:
Do not press buttons while the display is still flashing.

How to Cancel CUSTOM MEMORY

1. Press the STATION CALL number that you wish to cancel.

2. Press the MEMORY button.

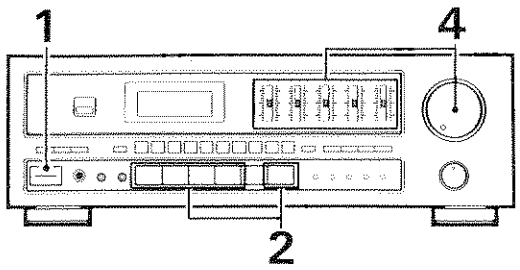
- The MEMORY indicator will flash.

3. While the MEMORY indicator is flashing, press twice on one of the three CUSTOM MEMORY buttons.

- The display will show "TUNER". This completes cancellation.

NOTE:
Do not press buttons while the display is still flashing.

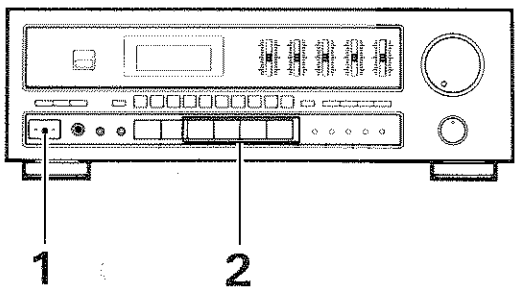
TO LISTEN TO OTHER MUSIC SOURCES



1. **Press the POWER switch to the ON position. Also turn on the power to the stereo components you wish to use.**
2. **Use the function buttons and tape monitor button as appropriate to select the desired program source.**
   Select function according to the table on the right.
3. **Operate the appropriate stereo component to play back the program source.**
4. **Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**

	Function buttons	TAPE 2 MONITOR button
To listen to a tape on the cassette deck connected to TAPE 2 MONITOR jacks.	—	ON
To listen to TAPE1/DAT	TAPE 1/DAT	OFF
To listen to the component connected to VCR/LD jacks	VCR/LD	OFF
To listen to a CD	CD	OFF
To listen to records	PHONO	OFF

TAPE RECORDING



You can record an FM or AM broadcast, or a sound source connected to the VCR/LD, CD, PHONO terminals.

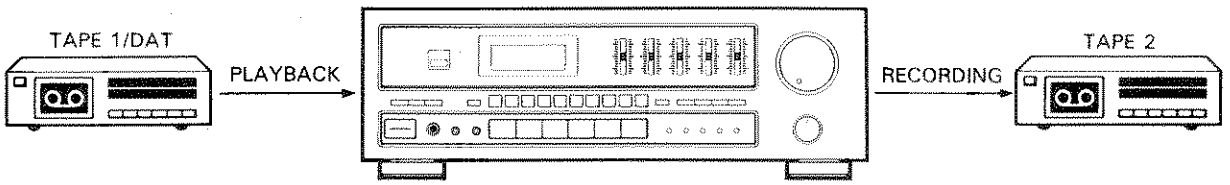
1. **Press the POWER switch to the ON position.**
2. **Select the sound source to be recorded.**
3. **Operate the cassette deck connected to the TAPE 1/DAT or TAPE 2 MONITOR terminals.**
4. **Turn on (or start) the sound source to be recorded.**

- For details of operating the cassette deck, read the operating instructions of the cassette deck.

COPYING TAPES

When two cassette decks are used, the sound played back on the deck connected to the TAPE 1/DAT jacks can be recorded on the deck connected to the TAPE 2 jacks.

- To make a tape copy with contents identical to the original tape.
- To edit a recording of an FM broadcast in order to cut out unwanted commercials, recording only the desired material onto another tape.



[When using two cassette decks]

1. **Load the playback tape (i.e. the pre-recorded tape) in the deck connected to the TAPE 1/DAT jacks, and the tape to be recorded in the other deck connected to the TAPE 2 jacks.**
2. **Press the TAPE 1/DAT button.**
3. **Operate the cassette decks to begin copying.**
   Set the cassette deck with the non-recorded tape to the recording mode, and set the cassette deck with the original tape to the playback mode.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
Power does not come on even when POWER switch is pressed.	• Power cord is disconnected.	• Connect cord securely.
No sound is produced, even when Function switch is selected.	• VOLUME control is set to 0 (MIN). • Speaker connecting wires are disconnected from speaker terminals. • One or both of the input cords are disconnected. • TAPE 2 MONITOR button is in the ON position.	• Turn the VOLUME control toward the right. • Connect wires to terminals securely. • Connect input cords securely. • Press the button to OFF position.
Sound is produced from one speaker only.	• BALANCE control is set too far to one side or the other. • One of the speaker connecting wires or input cords is disconnected.	• Set BALANCE control to center position. • Connect wires and cords securely.
Noise is produced during reception of AM broadcasts when the power switch of other components is turned ON or OFF.	• AM loop antenna picks up electrical noise created by switch contacts.	• Place AM loop antenna as far away as possible from this and other components.
High noise level.	• Station has not been tuned in to correct frequency. • Antenna has not been connected or has become disconnected. **FM reception** • Accessory FM antenna remains bundled up. • Weak broadcasting station signals. • Noise picked up from other equipment (or, in particular, from passing automobiles). • Multipath results when signals from broadcasting station entering antenna directly are mixed with signals which have been reflected by mountains or high buildings on their way to antenna. this results in distorted sound and noise. **AM reception** • AM antenna not pointing in right direction. • Weak broadcasting station signals. • Noise being picked up from other equipment (especially electrical appliances using motor or fluorescent lights).	• Tune the station correctly. • Connect the antenna securely. • Stretch the antenna taut and locate in direction yielding optimum reception. • Replace accessory FM antenna with outdoor FM antenna. • Try altering direction and mounting position of antenna. If an outdoor antenna has been erected, place it as far as possible from passing traffic and replace connecting cable with 75 Ω coaxial cable. • Change AM antenna's direction and find a position where reception is improved. • Erect outdoor AM antenna or connect ground wire. • Stop using appliances generating noise or remove them from vicinity of stereo equipment.
No auto stop. (FM reception)	• Input signals are not strong enough.	• If an accessory FM antenna is used, change over to an outdoor antenna. • Perform manual tuning.
Remote control does not work.	• Batteries are dead or no batteries in remote control unit. • Poor angle or too great a distance from the remote sensor window. • There is an obstacle between you and the remote sensor window. • For CD player and cassette decks, the remote control cord is not connected. • A fluorescent light is shining on the remote sensor window.	• Insert new batteries. • Use within 7 meters (23 feet) and within a 30 degree angle of the remote sensor window. • Change your position or move the obstacle. • Correctly connect remote control cord. • Turn off the light.

Abnormal functioning of this unit may be caused by lightning, static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

SPECIFICATIONS

Amplifier Section

Continuous Average Power Output is 70 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more then 0.8% total harmonic distortion.**

Continuous Power Output (both channel driven)**
- 20 Hz / 20 kHz, T.H.D. 0.8%, 8 Ω ..... 70 W + 70 W

Dynamic power output (with EIA test signal)
- 2/4/8 Ω ..... 145 W/130 W/90 W

Input (Sensitivity/Impedance)
- PHONO ..... 2.5 mV/47 kΩ
- CD, VCR/LD, TAPE 1/DAT, TAPE 2 ..... 150 mV/22 kΩ

Phono Overload Level (T.H.D. 0.01%, 1 kHz)
- PHONO ..... 130 mV

Output Level
- TAPE REC ..... 150 mV/2.2 kΩ

Frequency Response
- PHONO (RIAA Equalization) ··· 20 Hz to 20,000 Hz ±0.5 dB
- CD, VCR/LD, TAPE 1/DAT, TAPE 2 ..... 10 Hz to 70,000 Hz $^{+0.5}_{-3.0}$ dB

Signal-to-Noise Ratio (IHF, short circuited, A network)
- PHONO ..... 72 dB
- CD, VCR/LD, TAPE 1/DAT, TAPE 2 ..... 96 dB

Graphic Equalizer frequency band ..... 100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz, ±8 dB

FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... 12.3 dBf, IHF (1.1 μV/75 Ω)
50 dB Quieting Sensitivity
- MONO ..... 16.8 dBf (1.6 μV/75 Ω)
- STEREO ..... 38.6 dBf (19.5 μV/75 Ω)

Signal-to-Noise Ratio
- MONO ..... 73 dB (at 85 dBf)
- STEREO ..... 70 dB (at 85 dBf)

Distortion
- STEREO ..... 0.3% (1 kHz)

Alternate Channel Selectivity ..... 50 dB (400 kHz)
Stereo Separation ..... 35 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (±1 dB)
Antenna Input ..... 300 Ω balanced, 75 Ω unbalanced

AM Tuner Section

Frequency range
- When 10 kHz step ..... 530 kHz to 1,700 kHz
- When 9 kHz step ..... 531 kHz to 1,602 kHz

Sensitivity
- IHF, Loop antenna ..... 350 μV/m

Selectivity ..... 20 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... AM Loop Antenna

Miscellaneous

Power Requirements
- U.S., Canadian models ..... AC 120 Volts, 60 Hz
- Multi-voltage model ..... ~AC 110 V/120 V – 127 V /220 V/240 V (switchable), 50/60 Hz

Power Consumption
- U.S., Canadian models ..... 250 W (UL), 335 VA (CSA)
- Multi-voltage model ..... 410 W

AC Outlet
- U.S., Canadian models ··· SWITCHED x 1 : 100W (0.8 A) MAX
- Multi-voltage model ..... SWITCHED x 1 : 100W MAX

Dimensions
- Multi-voltage model ..... 420 (W) × 140 (H) × 289 (D) mm 16-9/16 (W) × 5-1/2 (H) × 11-3/8 (D) in
- U.S., Canadian models ..... 420 (W) × 135 (H) × 289 (D) mm 16-9/16 (W) × 5-5/16 (H) × 11-3/8 (D) in

Weight (Without package) ..... 5.8 kg (12 lb 13 oz)

Furnished Parts

FM Antenna 1
AM Loop Antenna 1
Operating Instructions 1
Remote control unit 1
Dry cell battery (size "AAA" (R03/UM-4)) 2

** Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.*
*** Measured By Audio Spectrum Analyzer.*

NOTE:
Specifications and design subject to possible modification without notice due to improvements.